

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference  JM/P210241WO	<b>FOR FURTHER ACTION</b>  see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No.  PCT/GB2004/004515	International filing date (day/month/year)  27/10/2004	(Earliest) Priority Date (day/month/year)  28/10/2003
Applicant  FILTRONIC PLC		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 7 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☒ **Certain claims were found unsearchable** (See Box II).

3. ☐ **Unity of invention is lacking** (see Box III).

**4. With regard to the title,**

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

**5. With regard to the abstract,**

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

**6. With regard to the drawings,**

a. the figure of the **drawings** to be published with the abstract is Figure No. 9

☐ as suggested by the applicant.

☒ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

## INTERNATIONAL SEARCH REPORT

International application No.

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Box No. IV Text of the abstract (Continuation of item 5 of the first sheet)

A coplanar waveguide line(9) comprising a substrate(11); a central electrode strip(22) on the substrate; first(12) and second(13) electrode strips disposed on opposite sides of the central electrode strip and extending parallel thereto; first(14) and second(15) optical waveguides on the substrate, the optical waveguides being positioned between the first and central electrode strips and extending parallel thereto; the central electrode comprising at least one T-rail extending proximate to the first optical waveguide; the first electrode comprising at least one T-rail extending proximate to the second optical waveguide; the substrate comprising an n+ electrically conducting layer(19) extending between the optical waveguides; wherein the coplanar waveguide line further comprises an electrical connection(23) between first and second electrode strips.

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International Application No  
PCT/GB2004/004515

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G02F1/225

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G02F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, INSPEC

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>DAGLI N: "WIDE-BANDWIDTH LASERS AND MODULATORS FOR RF PHOTONICS"</p> <p>IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES, IEEE INC. NEW YORK, US, vol. 47, no. 7, July 1999 (1999-07), pages 1151-1171, XP000846019</p> <p>ISSN: 0018-9480</p> <p>cited in the application</p> <p>page 1163 - page 1164</p> <p>figure 15</p> <p>-----</p> <p>-/--</p>	1,5-8,12

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents :

\*A\* document defining the general state of the art which is not considered to be of particular relevance

\*E\* earlier document but published on or after the international filing date

\*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

\*O\* document referring to an oral disclosure, use, exhibition or other means

\*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*&\* document member of the same patent family

Date of the actual completion of the international search

19 May 2005

Date of mailing of the international search report

01/06/2005

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	GB 2 384 570 A (* MARCONI OPTICAL COMPONENTS LIMITED; * BOOKHAM TECHNOLOGY PLC) 30 July 2003 (2003-07-30) page 6, line 21 - page 7, line 11 page 11, line 6 - line 26 page 18, line 13 - line 24 page 19, line 21 - line 27 page 21, line 20 - page 23, line 10 figures 8,9 -----	1,5-12
A	DAGLI N ET AL: "Ultra wide electrical bandwidth GaAs/AlGaAs electrooptic modulators" MICROWAVE SYMPOSIUM DIGEST, 1995., IEEE MTT-S INTERNATIONAL ORLANDO, FL, USA 16-20 MAY 1995, NEW YORK, NY, USA,IEEE, US, 16 May 1995 (1995-05-16), pages 251-254, XP010612413 ISBN: 0-7803-2581-8 the whole document -----	1

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.2

Claims Nos.: 13-16

As mentioned in Rule 6.2 (a) PCT, claims should not rely on reference to the description or drawings.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

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## Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 13-16  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:  
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No  
PCT/GB2004/004515

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
GB 2384570	A	30-07-2003	WO	03062914 A1	31-07-2003